Contents

Conference Photograph vi

Preface vii

Conference Information viii

Contents ix

Wilhelm Conrad Röntgen and his followers *(Evening Lecture)*
J. Lemmerich 1

Chapter 1. Fundamental aspects

XAS, MCD and PhD interpreted in the unifying framework of effective MS theory *(Plenary talk)*
C.R. Natoli 5

Theory of anomalous scattering *(Plenary talk)*
R.V. Vedrinskii, A.A. Novakovich, V.L. Kraizman, A.G. Bermous and V.Sh. Machavariani 11

Differences between L_3 and L_2 X-ray absorption spectra *(Plenary talk)*
F.M.F. de Groot 15

Initial and final state rules in X-ray spectroscopies of adsorbates *(Invited talk)*
A. Nilsson and N. Mårtensson 19

Atomic-XAFS and XANES *(Invited talk)*
J.J. Rehr, S.I. Zabinsky, A. Ankudinov and R.C. Albers 23

XMCD sum rules at Cu^{2+} $L_{2,3}$ edge
M.-A. Arrio, Ph. Sainctavit, C. Brouder and C. Deudon 27

Double-electron excitation effects above inner shell X-ray absorption edges
A. Filipponi 29

Photoemission study of the radiationless X-ray resonant Raman effect
W. Drube and R. Treusch 33

Formation of the pre-edge structure and dramatic polarization dependence of Ti K NEXAFS in $PbTiO_3$ crystals
V.L. Kraizman, A.A. Novakovich, R.V. Vedrinskii and V.A. Timoshevskii 35

Perturbation approach to thermal factors in EXAFS
T. Fujikawa and T. Miyanaga 37

Thermal dependence of multiple scattering using independently established dynamical information
P.W. Loeffen and R.F. Pettifer 39

A new method to calculate the photoabsorption cross-section in amorphous systems
M. Benfatto 42

Influence of the focusing effect on XAFS in ReO_3, WO_{3-x} and FeF_3
A. Kuzmin, J. Purans and Ph. Parent 45

NEXAFS of ionic solids as seen through resonant electron spectra
M. Elango, A. Kikas, A. Maiste, R. Russ and A. Saar 47

Identification of resonant, two-electron, and interatomic features in K and L_{23} NEXAFS spectra
D.E. Ramaker, H. Sambe, H. Qian and W.E. O'Grady 49

Multiple-scattering calculations on a series of $M(H_2O)_6^{2+}$ complexes with M = V to Cu
V. Briois, P. Lagarde, C. Brouder, Ph. Sainctavit and M. Verdaguer 51

L_3 edge X-ray absorption spectrum of CeO_2: crystal structure effects
A.V. Soldatov, T.S. Ivanchenko, A. Kotani and A. Bianconi 53

MS-Xα approach of near edge X-ray absorption spectra of the acrylonitrile molecule (CH_2CHCN)
C. Laffon, H.U. Ehrke, Ph. Parent, W. Wurth and G. Tourillon 56

Interference theory of many-centre shape resonances
Yu.F. Migal 59

Splitting of the $1s^{-1}3p$ resonance at the sulfur atom in planar sulfur gold complexes
A.A. Pavlychev, R. Szargan, K.H. Hallmeier, C. Hennig and A. Franke 62

Correlation of multiple scattering features in XANES spectra of Al and Si K edges to the Al–O–Si bond angle in aluminosilicate sodalites: An empirical study
M. Fröba, J. Wong, P. Behrens, P. Sieger, M. Rowen, T. Tanaka, Z. Rek and J. Felsche 65

Full potential XANES calculations for HCl using SCF electron densities
D.L. Foulis, R.F. Pettifer and P. Sherwood 68

L-EXAFS spectra of rare-earth aqueous solutions: detection and study of multielectron transitions
J.A. Solera, J. Garcia, M.G. Proietti and M.C. Sanchez 71

Hybridization and the multiplet approach
Ch. Brouder and K.H. Bennemann 73

The contribution of the shakeup and shakeoff effects to XAFS
M. Takahashi, S. Emura, Y. Ito, T. Mukoyama, S. Yoshikado and K. Omote 75

Inverse problem in the XANES theory
Yu.F. Migal 77

A fast free Green function calculation in multiple-scattering theory
F. Manar and Ch. Brouder 79

Surface orientation effect in total electron yield on TiO_2
B. Poumellec, R. Cortès and J. Berthon 81

Distortions of X-ray absorption spectra measured with fluorescence yield
F.M.F. de Groot, M.A. Arrio, Ph. Sainctavit, Ch. Cartier and C.T. Chen 84

The role of autoionization in the formation of electron spectra above Auger transitions
D.E. Guy, Yu.V. Ruts, D.V. Surnin, V.I. Grebennikov and O.B. Sokolov 87

XAFS of ZnSe
D. Diop and R. Grisenti 89

Theory of anharmonic Debye–Waller factors in spherical wave EXAFS
T. Fujikawa, M. Yimagawa and T. Miyanaga 91

Theory of the circular dichroism in ARXPS spectra
T. Fujikawa 93

First principle approach to the Debye–Waller factors in EXAFS for one-dimensional crystals
T. Miyanaga and T. Fujikawa 95

Temperature and shell size dependence of anharmonicity in EXAFS
N.V. Hung and R. Frahm 97

X-ray Raman scattering as a means for studies of near-edge and extended X-ray absorption fine structures
F. Gel'mukhanov and H. Ågren 100

Theory of the fine structure in inelastic X-ray scattering spectra of solids
R.V. Vedrinskii, A.A. Novakovich, V.L. Kraizman, G.Yu. Machavariani and V.Sh. Machavariani 103

Symmetry selective resonant inelastic X-ray scattering
H. Ågren, Yi Luo, F. Gel'mukhanov, J. Guo, P. Skytt, N. Wassdahl and J. Nordgren 105

Variation of optical luminescence X-ray excitation spectra
S. Emura, H. Maeda and M. Nomura 108

Accuracy of ab initio XAFS calculations of light binary compounds at low temperature and 300 K
L. Tröger and K. Baberschke 111

Contribution of the interference effects into the XANES by multiple scattering theory
I.Ya. Nikiforov, I.V. Bazhin and A.B. Kolpachev 113

K edge photoabsorption spectra in gas phase alkali halides
A. Elafif, R.C. Karnatak, J.M. Esteva, C.M. Teodorescu, M. Womes and E. Bouisset 115

Chapter 2. Data analysis

The UWXAFS analysis package: philosophy and details *(Invited talk)*
E.A. Stern, M. Newville, B. Ravel, Y. Yacoby and D. Haskel 117

An iterative approach to "atomic background" removal in XAFS data analysis *(Invited talk)*
F. Bridges, C.H. Booth and G.G. Li 121

EXAFS multiple-scattering data-analysis: GNXAS methodology and applications *(Invited talk)*
A. Di Cicco 125

Combined EXAFS and powder diffraction analysis *(Invited talk)*
N. Binsted, M.T. Weller and J. Evans 129

EXAFS analysis for anharmonic systems
G. Dalba, P. Fornasini, M. Grazioli, R. Gotter and F. Rocca 135

Using GNXAS, a multiple-scattering EXAFS analysis, for determination of the Fe–N–O angle in $\{FeNO\}^7$ complexes
T.E. Westre, A. Di. Cicco, A. Filipponi, C.R. Natoli, B. Hedman, E.I. Solomon and K.O. Hodgson 137

EXAFS study of nano-crystalline cobalt: A new application of the regularization method
Yu.A. Babanov, I.V. Golovshchikova, F. Boscherini, T. Haubold and S. Mobilio 140

Self-absorption effect in fluorescence XAS of polarization dependent white lines
M. Pompa, A.-M. Flank, R. Delaunay, A. Bianconi and P. Lagarde 143

Analysis of DAFS fine structure and background
B. Ravel, M. Newville, J.O. Cross and C.E. Bouldin 145

Computational method of X-ray harmonic elimination in EXAFS treating
Ph.M. Ovsyannikov and A.T. Shuvaev 148

Single and multiple scattering XAFS in $BaZrO_3$: A comparison between theory and experiment
D. Haskel, B. Ravel, M. Newville and E.A. Stern 151

Analysis of multiple-scattering XAFS data using theoretical standards
M. Newville, B. Ravel, D. Haskel, J.J. Rehr, E.A. Stern and Y. Yacoby 154

Influence of spherical wave corrections on the temperature dependence of XAFS multiple scattering processes
O. Speder and P. Rennert 157

A new method for parameterization of phase shift and backscattering amplitude
M. Vaarkamp, J.C. Linders and D.C. Koningsberger 159

Constructing unknown orientation dependent spectra from a group of spectra in polarized XAFS
J. Dong and K. Zhang 161

EXAFS Debye–Waller factor on ZnSe
D. Diop, R. Grisenti 164

Low and ambient temperature XAFS study of U(VI) in solids and aqueous solution
H.A. Thompson, G.E. Brown Jr. and G.A. Parks 167

The experimental and theoretical study of Zr K-XAS in $SrZrO_3$ and $BaZrO_3$
L.A. Bugaev, V.A. Shuvaeva, I.B. Alekseenko and R.V. Vedrinskii 169

L-absorption spectra of Dy complexes
K.K. Chaturvedi, G. Shah, G.K. Upadhyaya and S.N. Gupta 171

EXAFS studies of Tb and its compounds
G. Shah, G.K. Upadhyaya and S.N. Gupta 173

EDA: EXAFS data analysis software package
A. Kuzmin 175

A program for fast classic or dispersive XAS data analysis in a PC
A. San-Miguel 177

Multielectron excitation in XAFS on Br in organic solvents
Y. Ito, T. Mukoyama, S. Emura, M. Takahashi, S. Yoshikado and K. Omote 180

EXAFS background subtraction using splines
K.R. Bauchspieß 183

Exact treatment of beating phenomena in EXAFS
K.R. Bauchspieß 185

Effect of cluster size and shape on the $2p_{3/2}4s$ resonance in free argon clusters
A.A. Pavlychev, E.V. Semenova, A.P. Hitchcock and E. Rühl 187

MacXAFS: An EXAFS analysis package for the Macintosh
C. Bouldin, L. Furenlid and T. Elam 190

Chapter 3. Experimental techniques

Micro-spectroscopy with high spatial resolution *(Plenary talk)*
E. Umbach 193

Instrumentation development for ESRF beamlines *(Invited talk)*
J. Goulon, N.B. Brookes, C. Gauthier, J. Goedkoop, C. Goulon-Ginet, M. Hagelstein and A. Rogalev 199

Biological X-ray spectroscopy on 3rd generation synchrotron radiation sources *(Invited talk)*
C.Y. Ralston, J. Chen, G. Peng, S.J. George, J. van Elp and S.P. Cramer 203

Measurements of chemical species in flame at temperatures above 2000 °C – X-ray atomic absorption spectroscopy
I. Nakai, Y. Terada, M. Nomura and T. Uchida 209

Photoconductivity XAFS: some recent observations
T.K. Sham and R.A. Holroyd 212

Conversion electron yield detection as a probe for in situ XAFS catalyst studies
S.L.M. Schroeder, G.D. Moggridge, R.M. Ormerod, R.M. Lambert and T. Rayment 215

A diffraction anomalous fine structure (DAFS) study of Ir(1 0 0)/Fe superlattices
H. Renevier, J. Weigelt, S. Andrieu, R. Frahm and D. Raoux 217

New opportunities in 1–2 keV spectroscopy
J. Wong, Z.U. Rek, M. Rowen, T. Tanaka, F. Schäfers, B. Müller, G.N. George, I.J. Pickering, G. Via, B. DeVries, G.E. Brown Jr. and M. Fröba 220

XAFS with an energy-dispersive Laue monochromator
M. Hagelstein, C. Ferrero, M. Sanchez del Rio, U. Hatje, T. Ressler and W. Metz 223

Active monolithic crystal bender for dynamical sagittal focusing
S. Müllender, P. Marion, L. Zhang, N.B. Brookes and J. Goulon 225

XEOL XANES of ZnS(Cu) and porous Si
D.T. Jiang, S.P. Frigo, I. Coulthard, X.H. Feng, K.H. Tan, T.K. Sham and R.A. Rosenberg 227

A high performance VME-based detector system for subsecond energy dispersive EXAFS
G. Salvini, D. Bogg, A.J. Dent, G.E. Derbyshire, R.C. Farrow, A. Felton and C. Ramsdale 229

Modulated detection of multibeam dichroism using photodiodes
C. Gauthier, G. Goujon, S. Feite, E. Moguiline, L. Braicovich, N.B. Brookes and J. Goulon 232

Possibility of XAFS observation in relaxed excited states by a photo-modulation technique
S. Emura and H. Maeda 235

Depth selective chemical state analysis of fly ash with simultaneous XANES measurement of total electron and X-ray fluorescence yields
J. Kawai, S. Hayakawa, S. Zheng, Y. Kitajima, H. Adachi, Y. Gohshi, F. Esaka and K. Furuya 237

Development of micro-XAFS: Applications to studies of single fluid inclusions
R.A. Mayanovic, A.J. Anderson and S. Bajt 239

Design of an EXAFS cell for measurements of ionic solutions in a wide range of concentrations and in highly acidic media
A. Muñoz Páez, M. Gil, J.M. Martínez and E.S. Marcos 241

Microanalysis of iron oxidation states in earth and planetary materials
S. Bajt, S.R. Sutton and J.S. Delaney 243

Core excitation EELS study on some overlayers on Ni surfaces
S. Takatoh, K. Arai, T. Hayashi, T. Enokijima, T. Yikegaki, J. Tsukajima, T. Fujikawa and S. Usami 245

Oscillating sample holder for XAS studies of single-crystal samples
T.M. Hayes and J. Pant 247

A critical assessment of the QEXAFS method
J. Wong, M. Fröba and R. Frahm 249

Detection of dangling bonds in the mechanically milled h-BN nanocrystals by resonance X-ray scattering above threshold
J. Kawai, S. Tadokoro, Y. Muramatsu, S. Kashiwai, H. Kohzuki, M. Motoyama, H. Kato and H. Adachi 251

A furnace design for use in combined X-ray absorption and diffraction up to a temperature of 1200 °C: Study of cordierite ceramic formation using fluorescence QEXAFS/XRD
A.J. Dent, M. Oversluizen, G.N. Greaves, M.A. Roberts, G. Sankar, C.R.A. Catlow and J.M. Thomas 253

XSPRESS: A new generation of detector system for EXAFS studies
R. Farrow, G.E. Derbyshire, B.R. Dobson, A.J. Dent, D. Bogg, J. Headspith, R. Lawton, M. Martini, K. Buxton and R. Trammel 256

Chapter 4. Bulk crystals

Order and disorder in structural phase transitions *(Plenary talk)*
Y. Yacoby, B. Rechav, N. Sicron, E.A. Stern, J.J. Rehr and B. Ravel 259

In situ high-temperature (→ 2100 K) XAFS and anharmonicity
F. Farges, G. Fiquet, D. Andrault and J.-P. Itié 263

EXAFS study of crystalline selenium under pressure
Y. Katayama, H. Kanda, K. Tsuji, O. Shimomura and H. Oyanagi 265

Local dynamics and local thermal expansion around light elements in the bulk and on surfaces
L. Tröger, D. Arvanitis, T. Yokoyama and K. Baberschke 267

A NEXAFS study of the orientation of benzoate intercalated into a layer double hydroxide
G.D. Moggridge, P. Parent and G. Tourillon 269

Isotropic O 1s prepeak as evidence for polarons in $La_2NiO_{4+\delta}$
P. Kuiper, D.E. Rice, D.J. Buttrey, H.-J. Lin and C.T. Chen 271

EXAFS studies of superconducting A_2BC_{60} compounds
G. Nowitzke, G. Wortmann, H. Werner and R. Schögl 273

Structural information of inverse photoemission (EXBIFS)
Th. Engel, P. Steiner, R. Claessen and S. Hüfner 275

An investigation of the unoccupied p-symmetry states in Ag- and Pd-containing systems via $l \rightarrow (l-1)$ high resolution near-edge X-ray absorption spectroscopy
L. Duó, R. Cosso, G. Curró, S. D'Addato, D.A. Gregory, P. Unsworth, P. Weightman and M. Sancrotti 278

XAS studies on graphite intercalation compounds of $Ce(NO_3)_4$
K. Lochte, M. Fröba, T. Ressler and W. Metz 281

Local structure of the pseudo-binary $Ce(Ni_{1-x}Fe_x)_2$ alloys exhibiting anomalous lattice parameter change
M. Matsuura, S.H. Kim, M. Sakurai and K. Suzuki 283

Local symmetry influence on the formation of X-ray absorption near edge structure in KBr and RbCl
I.E. Stekhin, A.V. Soldatov and R. Ingalls 286

Anharmonic corrections in EXAFS from AgBr
D.R. Batchelor, P. Tangyunyong, T.N. Rhodin, Y.T. Tan and K.J. Lushington 289

Mn and Te K-edge EXAFS studies of $Zn_{1-x}Mn_xTe$
N. Happo, H. Sato, T. Mihara, K. Mimura, S. Hosokawa, Y. Ueda and M. Taniguchi 291

N K-shell absorption spectra of ionic and molecular crystals
R. Franke, S. Bender and J. Hormes 293

X-ray absorption spectroscopy of $BaPb_{1-x}Bi_xO_{3-\delta}$ and $Ba_{1-x}K_xBiO_{3-\delta}$ superconducting oxides
A.P. Menushenkov, A.Yu. Ignatov, K.V. Klementev and D.I. Kochubey 295

XANES studies of rare earth metals and compounds
G.K. Upadhyaya, G. Shah and S.N. Gupta 297

Angular-dependent soft X-ray absorption spectroscopy of V_2O_5 and V_6O_{13}
E. Goering, O. Müller, M. Klemm, J.P. Urbach, H. Petersen, C. Jung, M.L. denBoer and S. Horn 300

EXAFS study on the local structure in strontium titanate
O. Kamishima, Y. Nishihata, H. Maeda, T. Ishii, A. Sawada and H. Terauchi 303

Angular-dependence analysis of polarized X-ray absorption spectra
D. Heumann, D. Hofmann and G. Dräger 305

XAFS analysis of the low symmetry octahedral molybdenum and tungsten oxides
J. Purans, A. Kuzmin, Ph. Parent and H. Dexpert 307

XAS of trace element coordination in natural sediments at ambient and cryogenic temperatures
P.A. O'Day, S.A. Carroll, G.A. Waychunas and B. Phillips 309

EXAFS study on the local structure in potassium tantalate
Y. Nishihata, O. Kamishima, H. Maeda, T. Ishii, A. Sawada and H. Terauchi 311

$L_{II,III}$ near-edge study of tetravalent Pr-oxides: $PrBaO_3$ and PrO_2
J. Dumschat, G. Wortmann and I. Felner 313

Local disorder and near edge structure in titanate perovskites
B. Ravel and E.A. Stern 316

The ferroelectric phase transition in $PbTiO_3$ from a local perspective
N. Sicron, B. Ravel, Y. Yacoby, E.A. Stern, F. Dogan and J.J. Rehr 319

In situ XAS-study on transition metal doped metal oxides
A. Hoser, N. Hilbrandt, M. Martin and M. Denecke 321

XAFS study of ReO_3 under pressure
B. Houser, R. Ingalls and J.J. Rehr 323

Order disorder elements in antiferrodistortive phase transitions
B. Rechav, Y. Yacoby, E.A. Stern, J.J. Rehr and M. Newville 325

High pressure and high temperature XAFS study of germanate: Fourfold versus sixfold coordination changes
D. Andrault, J. Peyronneau, F. Farges and J.P. Itié 327

Chapter 5. Disordered systems

Impact of the asymmetric pair distribution function in the analysis of XAFS *(Plenary talk)*
E. Daryl Crozier 330

Buckled crystalline structure of disordered mixed salts
A. Frenkel, A. Voronel, A. Katzir, M. Newville and E.A. Stern 334

Triangular arrangements in germanium phases probed by XAS
L. Ottaviano, A. Filipponi and A. Di Cicco 337

Structural studies of some chloride melts with EXAFS
K. Lu, H. Li, Z. Wu, J. Dong and Z. Cheng 339

X-ray spectra of some ternary crystal and glass semiconductors
A.A. Lavrentyev, A.N. Gusatinskii, I.Ya. Nikiforov and N.Yu. Safontseva 344

Calculations of the X-ray absorption edge form of disordered carbon-contained compounds
A.B. Kolpachev, I.V. Bazhin and I.Ya. Nikiforov 347

X-ray diffraction and absorption studies of ion exchanged glasses
M. Dubiel, R. Schmitz, U. Kolb, D. Gutwerk and H. Bertagnolli 349

Application of multiple scattering calculation to the study of local geometry in silicate glasses of geological interest
E. Paris, C. Romano and Z. Wu 351

Evolution of cadmium chalcogen quantum dots in silicate glasses
A. Demourgues, G.N. Greaves, R. Bilsborrow, G. Baker, A. Sery, A.J. Dent and B. Speit 354

Evolution of the Y-rich phase in a super-cooled liquid of $Zr_{33}Y_{27}Al_{15}Ni_{25}$
M. Matsuura, M. Sakurai, K. Suzuki, S. Chen and A. Inoue 357

Behaviors of Ga during crystallization of amorphous $Nd_{4.5}Fe_{73}Ga_1CO_3B_{18.5}$ by fluorescence XAFS
M. Matsuura, S.H. Kim, M. Sakurai, K. Suzuki, H. Kanekiyo and S. Hirosawa 360

EXAFS study of compositional dependence of short range order in amorphous FeP electrodeposited alloys
M.L. Fdez-Gubieda, A. Garcia-Arribas, J.M. Barandiarán and J. Herreros 363

EXAFS study of short range order in $(Fe_{0.2}Co_{0.8})_{75}Si_yB_{25-y}$ metallic glasses
M.L. Fdez-Gubieda, I. Orue, F. Plazaola and J.M. Barandiarán 365

Structure of amorphous metal–metalloid alloys
B.T. Williams, S.J. Gurman and J.C. Amiss 367

The temperature dependence of substitutional impurities in Ag as measured by XAFS
M. Newville and E.A. Stern 369

Charge transfer in Au–Ta alloys: double resonance at the Au and Ta $L_{2,3}$-edge
R. Sammynaiken, M. Kuhn and T.K. Sham 371

XAFS study of short range order in the heavily disordered $Mo_xW_{1-x}O_3$ oxides
J. Purans, A. Kuzmin, Ph. Parent and H. Dexpert 373

Atomic structure of binary amorphous alloys by combined EXAFS and X-ray scattering
Yu.A. Babanov, V.R. Schvetsov and A.F. Sidorenko 375

Intermediate phases in the formation of the Cu–Ba–Y high-T_c superconductor from xerogel
I. Arčon, M. Bele, M. Hribar, A. Kodre, M. Štuhec, S. Pejovnik and R. Frahm 377

Strong multielectron absorption effects in the L-edge EXAFS spectra of elements from I to Ce
A. Kodre, I. Arčon, M. Hribar, M. Štuhec, F. Villain, W. Drube and L. Tröger 379

Coordination change around 2 wt% Ni in $Na_2Si_2O_5$ glass/melt systems
F. Farges, G.E. Brown Jr., G. Calas, L. Galoisy and G.A. Waychunas 381

EXAFS study of the α-AgI phase stabilized at room temperature in a glass matrix
G. Dalba, P. Fornasini, F. Monti, F. Rocca, M. Adachi, T. Minami, M. Tatsumisago, N. Torata and S. Kishimoto 383

The near edge structure of a-As_2S_3 and pressure-induced changes
G. Pfeiffer, J.J. Rehr and D.E. Sayers 385

XAFS studies of some precipitation and coloration reaction used in analytical chemistry
C. Numako and I. Nakai 387

Comparison of recrystallization, atomic redistribution and F 1s NEXAFS of fluorine in silicon
W. Frentrup and A. Mertens 389

Study of interatomic potential for Br^-–solvent interaction by temperature-dependent EXAFS
Y. Sawa, T. Miyanaga, H. Tanida and I. Watanabe 391

XAFS cumulant and ligand exchange reaction rate constant for metal ion in aqueous solution
T. Miyanaga, Y. Sawa, Hideto Sakane and I. Watanabe 393

EXAFS investigation of the second hydration shell of metal cations in dilute aqueous solutions
A. Muñoz Páez, S. Díaz, P.J. Pérez, M.E. Martín-Zamora, J.M. Martínez, R.R. Pappalardo and E. Sánchez Marcos 395

Comparative radial distribution analysis of the short range order in metallic glass $Al_{0.91}La_{0.09}$ and crystalline $Al_{11}La_3$
A. Frenkel, A. Rubshtein, A. Voronel and E.A. Stern 398

Chapter 6. Interfaces

Structure and local order of thin cobalt films on Cu(1 1 1)
P. Le Fèvre, H. Magnan, O. Heckmann and D. Chandesris 401

Amplitude correction for grazing incidence surface XAS experiments
L.B. Lurio, J. Pant and T.M. Hayes 403

Glancing angle XAFS and X-ray reflectivity study of Cu thermal vibration amplitudes at the $Cu-Al_2O_3$ interface
R.A. Mayanovic, Q. Lu, B.A. Bunker, A.J. Kropf and J.R. Buschert 405

Polarized XANES studies on the rubbed polyimide for liquid crystal alignment; new applicability to the tribology of the polymer systems
Y. Ouchi, I. Mori, M. Sei, E. Ito, T. Araki, H. Ishii, K. Seki and K. Kondo 407

Examination of passive films on metals with X-ray reflection absorption spectroscopy
P. Borthen, D. Hecht, J.-M. Abels and H.-H. Strehblow 409

Polarized fluorescence EXAFS studies of monocrystalline Au/Ni multilayers
C. Brizard, J.R. Regnard, B. Gilles and A. Marty 411

XAS study of the liquid/UPD Cu/Pt interfacial region
L.B. Lurio, J. Pant, T.M. Hayes, L. Wang and T.E. Furtak 413

Fe coordination in metastable cubic epitaxially grown Fe silicides
C. Pirri, P. Wetzel, M.H. Tuilier, S. Hong, G. Gewinner, O. Heckmann and R. Cortès 415

Orientation dependence of X-ray reflection from BN_{hex} in the energy region of B and N K-edges
E. Filatova, A.A. Pavlychev, C. Blessing and J. Friedrich 417

Polarized XANES studies on the mechanical rubbing effect of poly(tetrafluoroethylene) and its model compound
K. Nagayama, R. Mitsumoto, T. Araki, Y. Ouchi and K. Seki 419

Near surface structure determination using X-ray reflection absorption spectroscopy
P. Borthen and H.-H. Strehblow 421

Chapter 7. Surfaces/Adsorbates

Photoelectron diffraction for quantitative determination of adsorption structures on surfaces *(Plenary talk)*
D.P. Woodruff 423

Surface XAFS studies of adsorbate structure and bonding *(Invited talk)*
T. Ohta 427

Pair potentials in the SEXAFS analysis *(Invited talk)*
D. Arvanitis, M. Tischer and K. Baberschke 431

Adsorption study of ethylene derivatives on Pt(1 1 1) at 95 K as probed by NEXAFS
F. Bournel, C. Laffon, Ph. Parent and G. Tourillon 436

XAFS study of Co(II) sorption at the α-Al_2O_3–water interface
S.N. Towle, J.A. Bargar, P. Persson, G.E. Brown Jr. and G.A. Parks 439

Surface EXAFS and X-ray standing wave study of the cleaved CaO(1 0 0) surface
T. Kendelewicz, P. Liu, W.B. Labiosa and G.E. Brown Jr. 441

Evidence for strain-induced surface rearrangement: Ge epitaxial overlayers on Si(0 0 1)
H. Oyanagi, K. Sakamoto, R. Shioda and T. Sakamoto 443

A SEXAFS study of the Cu/Al_2O_3 interface
S. Gota, M. Gautier, L. Douillard, N. Thromat, J.P. Duraud and P. Le Fèvre 445

Adsorption of CS_2 on Cu(1 1 1) and Cu(1 0 0)
S. Yagi, T. Yokoyama, Y. Kitajima, A. Imanishi, S. Takenaka and T. Ohta 447

Chemisorption effect on K-shell XANES in N_2 and CO molecules on surfaces
A.A. Pavlychev and N.G. Fominykh 449

XANES of organosilicon clusters at the Si K- and L-edge
J.Z. Xiong, D.T. Jiang, Z.F. Liu, K.M. Baines, T.K. Sham, K.H. Tan and X.H. Feng 451

XAFS study of Co(II) at the ZnO- and ZnS-aqueous interfaces
P. Persson, G.A. Parks and G.E. Brown Jr. 453

XAFS study of Pb (II) sorption at the α-Al_2O_3–water interface
J.R. Bargar, G.E. Brown Jr. and G.A. Parks 455

A REFLEXAFS study of metal adsorption on a mica surface
J.M. Charnock, K.E.R. England, M.L. Farquhar and D.J. Vaughan 457

SEXAFS study of the Si/GaAs(1 1 0) interface
M.L. Hasnaoui, P. Lagarde, A.M. Flank and R. Delaunay 459

Analysis of Na(4 × 4)/Al(1 1 1) with anharmonicity
D.R. Batchelor and A. Schmalz 461

Surface structure of $(\sqrt{3} \times \sqrt{3})R30°$ and $(5\sqrt{3} \times 2)$ phases of S/Ni(1 1 1)
Y. Kitajima, S. Yagi, T. Yokoyama, A. Imanishi, S. Takenaka and T. Ohta 463

A local structure of P adsorbed on Ni(7 9 11) step surface
K. Asakura, H. Ishii, S. Konishi, Y. Kitajima, T. Ohta and H. Kuroda 465

Anharmonic anisotropic vibrations of the S–Ni bonds in $c(2 \times 2)$S overlayers on Ni(1 0 0) and Ni(1 1 0) surfaces
T. Yokoyama, H. Hamamatsu, T. Ohta and Y. Kitajima 467

XAFS of Mn multilayers on Ru(0 0 1)
T.K. Sham, M.L. Shek, M. Kuhn and J. Hrbek 469

Local structure determination for surface chlorination with EELFS
B.V. Andryushechkin, K.N. Eltsov and V.M. Shevlyuga 471

High temperature annealings of Sb and Sb/B heavily implanted silicon wafers studied by near grazing incidence fluorescence EXAFS
C. Brizard, J.R. Regnard and A. Demourgues 474

Static exchange calculations of X-ray absorption fine structures in polymers and surface adsorbates
H. Ågren, V. Carravetta, L.G.M. Pettersson and O. Vahtras 477

XAS study of AsO_4^{3-} and SeO_4^{2-} substituted schwertmannites
G.A. Waychunas, N. Xu, C.C. Fuller, J.A. Davis and J.M. Bigham 481

Chapter 8. Materials science

X-ray excited optical luminescence (XEOL) study of porous silicon *(Invited talk)*
R.F. Pettifer, A. Glanfield, S. Gardelis, B. Hamilton, P. Dawson and A.D. Smith 484

Symmetry of hole states in $La_{2-x}Sr_xCuO_{4+\delta}$ and $La_{2-x}Sr_xNiO_{4-\delta}$ *(Invited talk)*
E. Pellegrin, C.T. Chen, J. Zaanen and J. Fink 487

X-ray absorption studies of Sr, La and Nd in T- and T′-phase compounds
Z.Y. Wu, C.R. Natoli and M. Benfatto 491

Local environment of transition metal ternary dopants in β-phase transition metal aluminides
M. Balasubramanian, D.M. Pease, J.I. Budnick, T. Manzur and D.L. Brewe 493

Quasicrystals under high pressure
A. Sadoc, J.P. Itié, A. Polian, S. Lefebvre and M. Bessière 495

Correlation between XANES of the transition metals in ZnS and ZnSe and their limit of solubility
K. Ławniczak-Jabłońska , R.J. Iwanowski, Z. Gołacki, A. Traverse, S. Pizzini and A. Fontaine 497

Structural characterization of intermetallic Mg–Pt-complexes using X-ray absorption spectroscopy
L. Aleandri, B. Bogdanović, C. Dürr, U. Wilczok, D.J. Jones and J. Rozière 500

Tracing the changing environment of lattice sites in the recrystallisation of amorphised silicon
A.J. Dent, G.N. Greaves, G. Derst, S. Kalbitzer and G. Müller 503

Determination of the structure of high pressure phases combining X-ray absorption and diffraction studies
A. San-Miguel, J.P. Itié and A. Polian 506

Characterization of buried SiN_x films with EXAFS and NEXAFS
E.C. Paloura, A. Mertens, W. Frentrup, U. Döbler, A. Knop and W. Braun 509

Chromium valence state in chromate conversion coatings on aluminium
J. Wan, G.E. Thompson, K. Lu and C.J.E. Smith 511

Local structural studies of $(Ti_{1-x}Zr_x)Si_2$ thin films on Si(1 1 1)
Y. Dao, A.M. Edwards, R.J. Nemanich and D.E. Sayers 513

XAS study of Sn-related DX centers in (Al, Ga)As
J. Pant, L.B. Lurio, T.M. Hayes, D.L. Williamson, P. Gibart and T.N. Theis 515

Polarized XAFS in superconductive $La_{2-x}Sr_xCuO^+$ crystals
H. Terauchi, K. Sakaue, K. Yagi and H. Kasatani 517

XAFS at the Kr(2p) edge in the gas phase, clusters, and the solid
H.C. Schmelz, M.A. Gaveau, C. Reynaud, C. Heinzel, H. Baumgärtel and E. Rühl 519

Hole density as seen by XAS and T_c's in the layered superconducting copper oxides
F. Studer, C. Gasser, L. Coudrier, H. Murray, M. Pompa, A-M. Flank and P. Lagarde 521

XAFS study of Ce valence in the $Ce_{1-x}Y_xFe_2$ system
K.B. Garg, M. Khaled, S. Venkatesh, F. Studer, N.H. Duc and P. Srivastava 525

8.1. High-T_c superconductors, clusters

Temperature-dependent EXAFS study on oriented $YBa_2Cu_3O_{7-\delta}$ superconductor
H. Maeda, T. Ishii, H. Maruyama, Y. Kubozono, H. Yamazaki, M. Warden, S. Emura, E.A. Stern and S.M. Heald 528

EXAFS studies of electron-doped $Nd_{1.82-z}M_zCe_{0.18}CuO_y$: M = Ba, Sr or Ca, $z \geqslant 0.18$
B.D. Padalia, O.G. Singh, Om Prakash, S.J. Gurman and J.C. Amiss 531

XANES studies of the Nd–Sr–Ce–Cu–O superconducting system
B.D. Padalia, O.G. Singh, S.J. Gurman, K. Suba and Om Prakash 533

Temperature dependence of local structure of fullerene superconductor
Y. Kubozono, H. Maeda, T. Ishii, H. Ishida, S. Kashino, K. Oshima and S. Emura 536

An XAFS study of metallofullerene $La@C_{82}$
M. Nomura, Y. Nakao, K. Kikuchi and Y. Achiba 539

XANES study on the electronic states of carbon nanotube and related materials
M. Imamura, H. Shimada, H. Matsubayashi, M. Yumura, K. Uchida, S. Oshima, Y. Kuriki, Y. Yoshimura, T. Sato and A. Nishijima 541

Soft X-ray absorption spectra of fullerenes: core-excitonic effects and XANES spectra of C_{76} and $C_{60}F_x$
R. Mitsumoto, E. Ito, T. Araki, Y. Ouchi, K. Seki, S. Yajima, F. Okino, H. Touhara, K. Kikuchi and Y. Achiba 543

The effect of temperature on the radial distribution function for iron in native horse spleen ferritin
K.R. Bauchspieß, T.G. St. Pierre and J. Webb 545

EXAFS study of nanocrystalline iron
A. Di Cicco, M. Berrettoni, S. Stizza and E. Bonetti 547

EXAFS study of graphite intercalated with metal chlorides
Ya.V. Zubavichus, Yu.L. Slovokhotov, L.D. Kvacheva and Yu.N. Novikov 549

XANES and EXAFS studies on the Rhenium L absorption edges of graphite intercalation compounds of $ReCl_5$
M. Fröba, K. Lochte and W. Metz 552

8.2. Semiconductors

Al and Si K absorption edges of Al_2SiO_5 polymorphs using the new YB_{66} soft X-ray monochromator
M. Fröba, J. Wong, M. Rowen, G.E. Brown Jr., T. Tanaka and Z. Rek 555

Glancing angle XAFS of InAs/InP and GaAs/InP: Strain and interface
S. Turchini, M.G. Proietti, F. Martelli, T. Prosperi and J. García 557

The local structure of porous silicon investigated by EXAFS
G. Dalba, P. Fornasini, M. Grazioli, R. Grisenti, Y. Soldo and F. Rocca 559

On the effect of bonded hydrogen in the local microstructure of PECVD SiN_x:H films
E.C. Paloura, Y. Kuo and W. Braun 562

Electron and helium ion yield XAFS of sputter-deposited iron silicide thin films
M. Takahashi, I. Watanabe, M. Harada and F. Kanamaru 565

EXAFS and XRD studies of phase formations of Co in reactions with Si–Ge alloys
Z. Wang, R.J. Nemanich and D.E. Sayers 567

EXAFS study of the $M_{0.5}(OH)_x(H_2O)_yMoS_2$ intercalated complexes
E.F. Valeev, Ya.V. Zubavitchus, Yu.L. Slovokhotov, A.S. Golub, G.A. Protzenko and Yu.N. Novikov 569

EXAFS study of platinum coordination in compounds synthesized by cooperative evaporation of carbon and platinum in vacuum
A.T. Shuvaev, Ph.M. Ovsyannikov and T.A. Lyubenznova 571

EXAFS studies of sodium intercalated 2H and 1T polytypes of TaS_2
S. Aminpirooz, L. Becker, H. Rossner and E. Holub-Krappe 573

8.3. Glasses, salts, oxides

A study of temperature dependence of local structure of Ln(III) chloranilate and bromanilate (Ln = Nd, Er) complexes by EXAFS spectroscopy
T. Miyanaga and S. Sudoh 575

Chromium speciation in hazardous, cement-based waste forms
J.F. Lee, S. Bajt, S.B. Clark, G.M. Lamble, C.A. Langton and L. Oji 577

EXAFS study of some coordination polymers of copper
A.P. Deshpande 579

A XANES study on the dehydration process of magnesium hydroxide
T. Yoshida, T. Tanaka, H. Yoshida, S. Takenaka, T. Funabiki, S. Yoshida and T. Murata 581

XAFS investigation of the structure and valency of nickel in some oxycompounds
A.N. Mansour and C.A. Melendres 583

XAS study of CdS nanocrystals formed in glass
T.M. Hayes, L.B. Lurio, R.J. Olsson, J. Pant, H. Yükselici and P.D. Persans 585

Theoretical calculation of XANES spectra of $LaNiO_3$ and $NdNiO_3$
J. García, M.G. Proietti, J. Blasco and M. Benfatto 587

Structural studies of selenate incorporation into calcite crystals
G.M. Lamble, J.F. Lee, W.J. Staudt and R.J. Reeder 589

EXAFS of nanophase zirconia stabilized by yttria
H. Deng, H. Qiu and G. Shi 591

XAFS study on the crystallization of pentasil-structured zeolite
H. Shimada, N. Matsubayashi, M. Imamura, T. Sato, Y. Yoshimura, K. Okabe, H. Arakawa and A. Nishijima 593

EXAFS study of the gallium and iron environments in cation conducting pyrophosphate glasses
S. Poisson, P. Berthet, A. Belkebir and A. Rulmont 595

XAFS study of sixfold coordinated arsenic(V) in $LiAsO_3$ and $CaAs_2O_6$
P. Berthet, J. Berthon and F. d'Yvoire 597

An in situ grazing incidence X-ray absorption study of anodic silver oxide films
D. Hecht, P. Borthen and H.-H. Strehblow 599

Structural investigations on PZT precursors for thin film preparation
U. Kolb, I. Abraham, D. Gutwerk, T.S. Ertel, W. Hörner, H. Bertagnolli, S. Merklein and D. Sporn 601

An XAFS study of the oxidation of structural iron in biotite mica by solutions containing Br_2 or H_2O_2
S.M. Heald, J.E. Amonette, G.D. Turner and A.D. Scott 604

X-ray absorption study of titanium coordination in sol–gel derived TiO_2
I. Manzini, G. Antonioli, P.P. Lottici, G. Gnappi and A. Montenero 607

A XAS study of the structural changes undergone by amorphous copper sulfides when precipitated from solution
J.F.W. Mosselmans, J.M. Charnock, C.D. Garner, R.A.D. Pattrick and D.J. Vaughan 609

Comparison of K- and L_3-edges of ClO_3^-: Evidence for mixed electronic and multiple scattering effects
Z.Y. Wu, Trevor, A. Tyson and C.R. Natoli 611

8.4. Metals, intermetallics

Nanometric structure of Fe clusters in Fe/Cu and Fe/Ag granular materials studied by EXAFS
M. Sakurai, S.A. Makhlouf, T. Hihara, K. Sumiyama, K. Wakoh and K. Suzuki 614

Structural features of metallic superlattices and multilayers studied by X-ray absorption spectroscopy
C. Prieto, R. Castañer, A. de Andrés and J.L. Martínez 617

Near-edge studies of Nd–Co intermetallic compounds
B.D. Shrivastava, N.K. Mahajan and S.K. Joshi 619

Structure of Lu^{3+} and La^{3+} ions intercalated within layered clays as determined by EXAFS
A. Muñoz Páez, M.D. Alba, R. Alvero, A.I. Becerro, M.A. Castro and J.M. Trillo 622

Short-range order in AgAl alloys studied by EXAFS spectroscopy
F. Neissendorfer, S.J. Gurman, E. Zschech and W. Pfeiler 625

Temperature-depenent EXAFS-study of tungsten bronze $Na_2Sr_4Nb_{10}O_{30}$ and boracite $Fe_3B_7O_{13}Br$ ferroelectrics
A.T. Shuvaev, I.V. Pirog and I.A. Zarubin 627

XAFS study on crystallization of Nd–Fe–B alloys
H. Kageyama, K. Kadono, K. Fukumi, T. Harada and T. Kuji 629

Structural changes in Pd–Si powder mixtures during amorphization process by mechanical alloying
T. Nasu, K. Nagaoka, M. Sakurai and K. Suzuki 631

Chapter 9. Catalysis

Influence of the reduction temperature on the structure of the metal particles and the metal–support interface of $Pt/\gamma\text{-}Al_2O_3$ catalysts *(Plenary talk)*
D.C. Koningsberger and M. Vaarkamp 633

In-situ asymmetric structure analysis of Pt clusters on $\alpha\text{-}Al_2O_3(0001)$ in H_2 reduction and NO adsorption *(Invited talk)*
K. Asakura, K. Tomishige, M. Shirai, T. Yokoyama and Y. Iwasawa 637

EXAFS investigations of metal organic molecules with the goal of studying homogeneously catalytic systems in situ *(Invited talk)*
T.S. Ertel, W. Hörner, S. Hückmann, U. Kolb, I. Abraham and H. Bertagnolli 641

Application of in situ dispersive XAFS studies in catalysis
U. Hatje, M. Hagelstein, T. Ressler and H. Förster 646

The state of platinum in a $Pt/SO_4^{2-}/ZrO_2$ super acid catalyst
T. Tanaka, T. Shishido, H. Hattori, K. Ebitani and S. Yoshida 649

In situ X-ray absorption spectroscopy studies of Pt–mordenite catalysts
M.M. Otten, S.N. Reifsnyder and H.H. Lamb 651

Multiple scattering in Ti K-edge EXAFS of siloxytitanium compound and of Ti silicalite catalyst
Ch. Cartier, C. Lortie, D.T. On, H. Dexpert and L. Bonneviot 653

EXAFS study of the polynuclear metallorganosiloxanolates
O.A. Beliakova, Ya.V. Zubavichus, Yu.L. Slovokhotov, O.I. Shchegolikhina and A.A. Zhdanov 655

Photosynthetic water oxidation: Structural insights to the catalytic manganese complex
J.C. Andrews, R. Cinco, H. Dau, M.J. Latimer, W. Liang, T.A. Roelofs, A. Rompel, K. Sauer, V.K. Yachandra and M.P. Klein 657

DEXAFS studies on the reactivity of exfoliated graphite intercalation compounds
T. Ressler, U. Hatje, K. Lochte and W. Metz 660

X-ray diffraction anomalous fine structure study of a supported Pt catalyst
Q. Ma, J.-F. Lee and D.E. Sayers 663

Combined XANES and EXAFS analysis of supported bimetallic catalysts
J.W. Couves and P. Meehan 665

EXAFS atomic distributions in model clusters of Pd and Pt
Yu.L. Slovokhotov and D.I. Kochubey 668

EXAFS investigations of high-nuclearity Pd clusters
R.E. Benfield, A. Filipponi, D.T. Bowron, R.J. Newport, S.J. Gurman and G. Schmid 671

The structure of new synthetic manganese oxide octahedral molecular sieves
S.R. Wasserman, K.A. Carrado, S.E. Yuchs, Y.F. Shen, H. Cao and S.L. Suib 674

In situ study by XAS of the sulfuration of the Pt and $PtRe/Al_2O_3$ systems
A. Bensaddik, H. Dexpert, D. Bazin, A. Caballero, F. Villain, B. Didillon and J. Lynch 677

XAS study of V_2O_5/Al_2O_3 catalysts doped with rare earth oxides
M.A. Centeno, P. Malet, M.J. Capitan, J.J. Benitez, I. Carrizosa and J.A. Odriozola 679

XAFS study of niobium species formed during the preparation of Nb/SiO_2 catalysts by the equilibrium adsorption method
H. Yoshida, T. Tanaka, T. Yoshida, T. Funabiki and S. Yoshida 681

NO-induced morphology changes by XAFS study
T. Hashimoto, H. Hayashi, Y. Udagawa and A. Ueno 683

XAFS study of Ru(II)–Sn(II) cluster supported on NaY zeolite
Y. Udagawa, T. Yamakawa, H. Hatanaka, Li-C. Yang and S. Shinoda 685

XANES study of Eu species encapsulated in potassium Y-type zeolite
T. Tanaka, T. Yoshida, S. Yoshida, T. Baba and Y. Ono 687

The influence of polydispersity and inhomogeneity on EXAFS of bimetallic catalysts
J. Moonen, J. Slot, L. Lefferts, D. Bazin and H. Dexpert 689

Full multiple scattering approximation to K XANES of supported metal catalysts
N. Aldea, C. Tiuoşan and A. Chezan 691

In situ EXAFS-electrochemical study of reduction of molecular oxygen on Mo–Ru–Se thin layers electrodes in acidic media
D.I. Kochubey, S.G. Nikitenko, V.N. Parmon, Yu.A. Gruzdkov, H. Tributsch and N.Alonso-Vante 694

X-ray absorption studies of cobalt aluminophosphate zeolites (CoAPO-5)
G. Zhang and T.V. Harris 697

EXAFS characterisation of small metallic clusters supported on zeolite NaY
F. Cimini and R. Prins 699

XRD, EXAFS and XANES investigation of Ti(IV) exchanged K10-montmorillonite
M.C. Sánchez, J. García, J.A. Mayoral, J. Blasco and M.G. Proietti 702

EXAFS study of monometallic and bimetallic Ru/Al_2O_3 based catalysts
M.C. Sánchez, J. García, J. Blasco and M.G. Proietti 705

In situ XAFS study of phase transitions and hydrogen intercalation in WO_3–MoO_3 system
J. Purans, A. Kuzmin, Ph. Parent and H. Dexpert 707

EXAFS characterization of methyl and phenyl cuprates in solution
T.M. Barnhart and J.E. Penner-Hahn 709

EXAFS studies on the interaction between Eu^{3+} and crown ethers in organic solvents
A. Ishida, S. Emura, M. Takahashi, Y. Ito, H. Kanamuru and S. Takamuku 711

Chapter 10. Biology

XAS studies of metal centres in proteins *(Plenary talk)*
C.D. Garner 714

XAFS of human tyrosine hydroxylase
W. Meyer, J. Haavik, H. Winkler, A.X. Trautwein and H.-F. Nolting 717

A time-resolved study of substrate hydrolysis of carboxypeptidase A
K. Zhang, J. Dong and D.S. Auld 719

Comparative XANES studies of some copper(II) mixed ligand amino acid complexes in solid and aqueous solution forms
S.K. Joshi, A.C. Gharia and B.D. Shrivastava 722

Nickel L-edge X-ray absorption study of nickel phosphine halide complexes
M.J. Ashcroft, D. Collison, C.D. Garner, J.F.W. Mosselmans, E. Pidcock and N.A. Young 725

XAFS study of CO binding to denatured cytochrome c
Y. Zhang and E.A. Stern 727

XAFS of silver(I) metallothionein
D.T. Jiang, Z.Q. Gui, S.M. Heald, T.K. Sham and M.J. Stillman 729

X-ray absorption studies of the purple acid phosphatase from red kidney beans (native enzyme, metal exchanged form)
F. Ahlers, F. Zippel, T. Klabunde, B. Krebs, R. Löcke, H. Witzel and H.-F. Nolting 731

EXAFS studies on Iron(III) sorbitol complexes
H. Winkler, W. Meyer, A.X. Trautwein, K. Hegetschweiler and H.-F. Nolting 733

EXAFS studies of CsBr-dibenzo-18-crown-6 ether solutions
K.M. Kemner, W.T. Elam, D.B. Hunter and P.M. Bertsch 735

K-absorption spectral studies of some cobalt(II) benzohydroxamic acid complexes
A.C. Gharia, S.K. Joshi, B.D. Shrivastava and P.V. Khadikar 737

XAS studies of Ni(I), Ni(II), and Ni(III) complexes
L.R. Furenlid, M.W. Renner and E. Fujita 739

Conformational states of hemoproteins by XANES: The mutant VR myoglobin
S. Della Longa, A. Bianconi, A. Brancaccio, M. Brunori, A.C. Castellano, F. Cutruzzolà, J.L. Hazemann, M. Missori and C. Travaglini-Allocatelli 743

Chapter 11. Magnetic XAFS

Application of magnetic circular dichroism to magnetic thin films *(Invited talk)*
Y.U. Idzerda, C.T. Chen, H.-J. Lin, H. Tjeng and G. Meigs 746

Hard X-rays magnetic EXAFS *(Invited talk)*
E. Dartyge, F. Baudelet, C. Brouder, A. Fontaine, C. Giorgetti, J.P. Kappler, G. Krill, M.F. Lopez and S. Pizzini 751

Spin polarisation of copper in Co/Cu and Fe/Cu multilayers
S. Pizzini, A. Fontaine, Ch. Giorgetti, E. Dartyge, J.-F. Bobo, M. Piecuch and F. Baudelet 755

A fully relativistic description of the circular and linear magnetic X-ray dichroism in magnetic multilayer systems
J. Schwitalla, H. Ebert, G.-Y. Guo and G. Schütz 757

Magnetic circular X-ray dichroism at Fe K-edge in ferrimagnetic Fe-oxides
H. Maruyama, I. Harada, K. Kobayashi and H. Yamazaki 760

Local-spin-selective X-ray absorption and X-ray magnetic circular dichroism of MnP
F.M.F. de Groot, S. Pizzini, A. Fontaine, K. Hämäläinen, C.C. Kao and J.B. Hastings 763

K edge X-ray magnetic circular dichroism in molecule-based magnets
M. Verdaguer, T. Mallah, C. Hélary, F. L'Hermite, P. Sainctavit, M.A. Arrio, D. Babel, F. Baudelet, E. Dartyge and A. Fontaine 765

Resonant X-ray magneto-optics near critical glancing angles
V.M. Matveev and V.V. Matveev 768

Spin-dependent Mn XANES of MnO: theoretical analysis
A.V. Soldatov, A.P. Kovtun and A. Bianconi 771

Polarized XAS experiments on magnetic rare earth clusters
A.M. Flank, P. Lagarde, R. Delaunay, M. Pompa and C. Teodorescu 773

Soft X-ray magnetic circular dichroism in molecular based magnet
M.-A. Arrio, Ph. Sainctavit, Ch. Cartier dit Moulin, Ch. Brouder, F.M.F. de Groot, T. Mallah, M. Verdaguer and C.T. Chen 775

Quadrupolar transitions by MCXD at L edges? Search of evidence
C. Giorgetti, E. Dartyge, S. Pizzini, A. Fontaine, F. Baudelet, C. Brouder, C. Meyer and F. de Groot 777

Magnetic EXAFS study of pure Fe and Fe-oxides at Fe K-edge
K. Kobayashi, H. Maruyama, H. Maeda, T. Iwazumi, H. Kawata and H. Yamazaki 779

Orientation of the Ni magnetic moments in Ni–Zn ferrites
W.F. Pong, Y.K. Chang, M.H. Su, H.J. Lin, G.H. Ho, P.K. Tseng, T.M. Uen, G. Meigs and C.T. Chen 781

Tunable X-ray quarter-wave plates for X-ray magnetic circular dichorism experiments with the energy dispersive absorption spectrometer
C. Giles, C. Malgrange, J. Goulon, F. de Bergevin, C. Vettier, A. Fontaine, E. Dartyge, S. Pizzini, F. Baudelet and A. Freund 784

A separation of the Pt 5d orbital and spin moments in a ferrimagnetic $CrPt_3$ compound
H. Maruyama, F. Matsuoka, K. Kobayashi and H. Yamazaki 787

Chapter 12. Conference summary

Conference summary
Pierre Lagarde 789

List of Contributors 791

Subject Index 797